Tennessee Pollution Prevention Partnership Success Story

DENSO Manufacturing Tennessee, Inc.
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Performer Energy Conservation, Land & Water Conservation and Solid Waste Reduction

The Member

DENSO Manufacturing Tennessee, Inc. (DMTN) is part of DENSO Corporation's global network of more than 106,000 employees in 32 countries and regions and is the second largest producer of advanced automotive technology, systems and components for all world's major automakers. DMTN employs approximately 3,000 associates in Maryville. Automotive components and systems produced at the Tennessee operations include the following:

Alternators, starters, instrument clusters, and body and engine & safety electronic components.

The Story – Manufacturing Space

In 2006, DMTN's Electronic Products Division manufactured engine and body electronic components in one building on our campus. Sales continued to increase and we would not have adequate manufacturing floor space for new business that would start production in 2008.

New Idea – Smart Building

The solution was to construct a new manufacturing building for the body electronic products and improve the existing building for the engine & safety electronic products.

The Success

On April 4, 2008, DMTN celebrated the grand opening of our new body electronics division:

1. Designed stormwater pond for 100 year storm events
2. Included recycling center to minimize landfill waste
3. Installed T8 florescent lighting with electronic ballasts for reduced energy consumption
4. Designed the building to save on construction and operating costs by reducing the amount of water required and the eliminating chemicals f cooling water treatment:
   - 155 skylights and smoke vents to allow natural lighting
   - 2 x 250 HP air cooled air compressors
   - 2 x air cooled air driers
   - 3 x air cooled 500 ton chillers to eliminat need for cooling towers
   - Common exhaust system
5. All motors for air handling units, chillers, air compressors, air driers, exhaust fans and pum are variable frequency drives to reduce power consumption
6. Eliminated column interference by designing 4 by 80ft bays making the production lines more efficient and requiring less floor space
7. Installed on demand hot water heaters in the bathrooms and locker rooms
8. Use propylene glycol (biodegradable) for chille coolant
9. Added common solenoids (switches) to the pneumatic and nitrogen supply lines to minimiz usage during downtime
10. Utilize the utility monitoring system to measure energy consumption before and after utility reduction efforts